

IN THE CLAIMS:

Please amend claim 77 and cancel claims 21-23, 54, 61-63, 65, 72-74 and 76. Claims 38, 64, and 75 have been withdrawn.

This listing of claims will replace all prior versions and listings of the claims in the application.

Listing of the claims

1. **(Previously presented)** An isolated nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of:

a nucleic acid sequence that encodes a fusion protein that consists of a non-IgE protein sequences linked to an IgE signal peptide that is from the same species as the non-IgE protein; and

a nucleic acid sequence that encodes a fusion protein that consists of a non-IgE protein sequences linked to an IgE signal peptide, wherein the non-IgE protein is an immunomodulating protein selected from the group consisting of cytokines, chemokines, cellular death receptors, cellular adhesion molecules, cellular growth factors, cellular growth factor receptors, protein kinases and enzymes or functional fragment thereof.

2.-13. **(Canceled)**

14. **(Previously presented)** The isolated nucleic acid molecule of claim 1 wherein said isolated nucleic acid molecule is a plasmid.

15. **(Previously presented)** The nucleic acid molecule of claim 1 incorporated into a viral vector.
16. **(Previously presented)** A composition comprising a nucleic acid molecule of claim 1 and a nucleic acid molecule that comprises a nucleic acid sequence that encodes an immunogen.
17. **(Previously presented)** The composition of claim 16 wherein said composition comprises a nucleic acid molecule that encodes an immunogen, wherein said immunogen is a pathogen antigen, a cancer-associated antigen or an antigen linked to cells associated with autoimmune diseases.
18. **(Canceled)**
19. **(Previously presented)** The composition of claim 17 wherein said immunogen is a pathogen antigen is from a pathogen selected from the group consisting of HIV, HSV, HCV, and WNV.
- 20-37. **(Canceled)**
38. **(Withdrawn)** The isolated nucleic acid molecule of claim 1 wherein said isolated nucleic acid molecule comprises a nucleic acid sequence that encodes a fusion protein that consists of an IgE signal peptide linked to non-IgE protein sequences wherein the non-IgE protein is an enzyme or functional fragment thereof.
- 39-54. **(Canceled)**

55. **(Previously presented)** The isolated nucleic acid molecule of claim 1 comprising a nucleic acid sequence that encodes a fusion protein that consists of a non-IgE protein sequences linked to an IgE signal peptide that is from the same species as the non-IgE protein.
56. **(Previously presented)** The isolated nucleic acid molecule of claim 55 wherein said isolated nucleic acid molecule is a plasmid.
57. **(Previously presented)** The nucleic acid molecule of claim 55 incorporated into a viral vector.
58. **(Previously presented)** A composition comprising a nucleic acid molecule of claim 55 and a nucleic acid molecule that comprises a nucleic acid sequence that encodes an immunogen.
59. **(Previously presented)** The composition of claim 58 wherein said composition comprises a nucleic acid molecule that encodes an immunogen, wherein said immunogen is a pathogen antigen, a cancer-associated antigen or an antigen linked to cells associated with autoimmune diseases.
60. **(Previously presented)** The composition of claim 59 wherein said immunogen is a pathogen antigen is from a pathogen selected from the group consisting of HIV, HSV, HCV, and WNV.
- 61-63. **(Canceled)**
64. **(Withdrawn)** The isolated nucleic acid molecule of claim 55 wherein said isolated nucleic acid molecule comprises a nucleic acid sequence that encodes a fusion protein

that consists of an IgE signal peptide linked to non-IgE protein sequences wherein the non-IgE protein is an enzyme or functional fragment thereof.

65. **(Canceled)**

66. **(Previously presented)** The isolated nucleic acid molecule of claim 1 comprising a nucleic acid sequence that encodes a fusion protein that consists of a non-IgE protein sequences linked to a IgE signal peptide wherein the non-IgE protein is an immunomodulating protein.

67. **(Previously presented)** The isolated nucleic acid molecule of claim 66 wherein said isolated nucleic acid molecule is a plasmid.

68. **(Previously presented)** The nucleic acid molecule of claim 66 incorporated into a viral vector.

69. **(Previously presented)** A composition comprising a nucleic acid molecule of claim 66 and a nucleic acid molecule that comprises a nucleic acid sequence that encodes an immunogen.

70. **(Previously presented)** The composition of claim 69 wherein said composition comprises a nucleic acid molecule that encodes an immunogen, wherein said immunogen is a pathogen antigen, a cancer-associated antigen or an antigen linked to cells associated with autoimmune diseases.

71. **(Previously presented)** The composition of claim 70 wherein said immunogen is a pathogen antigen is from a pathogen selected from the group consisting of HIV, HSV, HCV, and WNV.

72-74. **(Canceled)**

75. **(Withdrawn)** The isolated nucleic acid molecule of claim 66 wherein said isolated nucleic acid molecule comprises a nucleic acid sequence that encodes a fusion protein that consists of an IgE signal peptide linked to non-IgE protein sequences wherein the non-IgE protein is an enzyme or functional fragment thereof.

76. **(Canceled)**

77. **(Currently amended)** The isolated nucleic acid molecule of claim 1 ~~wherein the immunomodulating protein is selected from the group consisting of~~ wherein the non-IgE protein is an immunomodulating protein selected from the group consisting of an enzyme, functional fragment thereof, IL-15, CD40L, TRAIL; TRAIL_{rec}DRC5, TRAIL-R2, TRAIL-R3, TRAIL-R4, RANK, RANK LIGAND, OX40, OX40 LIGAND, NKG2D, F46181 or MICA, MICB, NKG2A, NKG2B, NKG2C, NKG2E, NKG2F, CD30, CD153 (CD30L), Fos, cjun, Sp-1, Apl, Ap-2, p38, p65Rel, MyD88, IRAK, TRAF6, IκB, NIK, SAP K, SAP1, JNK2, JNK1B2, JNK1B1, JNK2B2, JNK2B1, JNK1A2, JNK2A1, JNK3A1, JNK3A2, NF-κappa-B2, p49 splice form, NF-κappa-B2, p100 splice form, NF-κappa-B2, p105 splice form, NF-κappa-B 50K chain precursor, NFκB p50, human IL-1 a, human IL-2, human IL-4, murine IL-4, human IL-5, human IL-10, human IL-15, human IL-18, human TNF-α, human TNF-β, human interleukin 12, MadCAM-1, NGF IL-7, VEGF, TNF-R, Fas, CD40L, IL-4, CSF, G-CSF, GM-CSF, M-CSF, LFA-3, ICAM-3, ICAM-2, ICAM-1, PECAM, P150.95, Mac-1, LFA-1, CD34, RANTES, IL-8, MIP-1α, E-selectin, CD2, MCP-1, L-selectin, P-selectin, FLT, Apo-1, Fas, TNFR-1, p55, WSL-1, DR3, TRAMP, Apo-3, AIR, LARD, NGRF, DR4 (TRAIL), DR5, KILLER, TRAIL-R2, TRICK2, DR6, ICE, VLA-1, and CD86 (B7. 2).